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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,559	01/27/2004	Kiyonori Furuta	246311US0CONT	9010

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EXAMINER	
GREEN, ANTHONY J	
ART UNIT	PAPER NUMBER
1755	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	04/20/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/20/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/764,559	FURUTA ET AL.	
	Examiner	Art Unit	
	Anthony J. Green	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/27/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 10-15 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 10 and 11 are confusing as written as it is unclear as to how the concentration of the metal surface protective film-forming agent can be based solely on the content of the amino acid when it appears that the metal surface protective film forming agent IS the amino acid. Clarification is requested.

In claims 12-15 it is unclear as to what the concentration of the agent is based on. That is, is it based on the total amount of the solution or what? Clarification is requested.

Claim 14 is confusing as it recites that the metal oxide dissolution agent may be an amino acid and this is confusing as the metal surface protective film-forming agent may also be an amino acid. Claims in which one component is defined so broadly that it reads on a second, fail to meet the requirements of the second paragraph of 35 USC 112. See *Ex parte Ferm et al* 162.

In claim 17 the phrase "polishing solution when polishing a metal polishing solution" is not understood. Clarification is requested.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-2, 4-9 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Specification No. 50-51938.

The reference teaches, in the abstract, an aqueous solution comprising amino acid(s) such as arginine, valine, glutamic acid, glutamine, leucine, isoleucine, methionine, and threonine. The aqueous solution is applied to the surface of steel products to prevent the corrosion of steel products and also improve the subsequent coating.

The instant claims are met by the reference as the reference teaches a composition that encompasses the instant claims. While the reference does not recite that the solution is a metal surface protective film-forming agent or a metal polishing solution it is well settled that when a claimed composition appears to be substantially the same as a composition disclosed in the prior art, the burden is properly upon the applicant to prove by way of tangible evidence that the prior art composition does not necessarily possess characteristics attributed to the CLAIMED composition. In re Spada, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Circ. 1990); In re Fitzgerald, 619 F.2d 67, 205 USPQ 594 (CCPA 1980); In re Swinehart, 439 F.2d. 2109, 169 USPQ 226 (CCPA 1971).

5. Claims 1-2, 4-9 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by McMillen et al (US Patent No. 5,209,788A).

The reference teaches, in the claims, a water-based passivating composition comprising an amino compound such as leucine etc. and a group IVB metal compound.

The instant claims are met by the reference as the reference teaches a composition that encompasses the instant claims. While the reference does not recite that the solution is a metal surface protective film-forming agent or a metal polishing solution it is well settled that when a claimed composition appears to be substantially the same as a composition disclosed in the prior art, the burden is properly upon the applicant to prove by way of tangible evidence that the prior art composition does not necessarily possess characteristics attributed to the CLAIMED composition. In re

Spada, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Circ. 1990); In re Fitzgerald, 619 F.2d 67, 205 USPQ 594 (CCPA 1980); In re Swinehart, 439 F.2d. 2109, 169 USPQ 226 (CCPA 1971).

6. Claims 1, 9 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Wang et al (US Patent No. 6,840,971 B2).

The reference teaches, in the examples a polishing slurry that comprises an alpha amino acid, an oxidizing agent such as hydrogen peroxide and other components.

The instant claims are met by the reference as the reference teaches a composition that encompasses the instant claims.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 2-8 and 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al (US Patent No. 6,840,971 B2).

The reference was discussed previously. Further the reference teaches, in column 5, lines 27+, various other alpha amino acids that may be utilized such as leucine, phenylalanine, etc. The alpha amino acid is present in the composition in an amount ranging from about 0.05 to 10 wt%. According to column 5, lines 21+, the

amount of the oxidizing agent ranges from about 0.01 to about 30.0 weight percent. Column 6, lines 26+, teach that the composition may further contain a stopping compound. Column 3, lines 46+, and column 8, lines 23+ recite the types of substrates that may be polished using the composition. Column 1, lines 16+ teach that the compositions may be used to treat semiconductor materials.

The instant claims are obvious over the reference. While the reference does not provide an example wherein an alpha amino acid like those recited in instant claims 3-8 is specifically utilized it does teach that alpha amino acids such as those meeting instant claims 3-8 may be utilized and therefore claims 3-8 are obvious absent evidence showing otherwise. As for claims 10-15 while the reference does not recite the same amounts as instantly claimed it does teach amounts that encompass those instantly claimed. However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions taught by the reference overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

> "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages", In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05. As for claim 16 while the reference does not specifically recite this method of polishing a surface of base material that is provided with a metal film for wiring, it does teach that it may be utilized for such and thus the method of claim 16 is obvious over the reference absent evidence showing otherwise. As for claims 17-19 while the reference does not specifically recite an example that meets these claims it does teach that the composition may be used to polish semiconductor materials and therefor in the absence of evidence to the contrary these claims (which are conventional method claims for manufacturing semiconductor circuits and the resultant circuit) are obvious over the reference absent evidence showing otherwise.

9. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida et al (US Patent No. 6,896,825 B1).

The reference teaches, in the claims, a polishing solution for metal, comprising an oxidizing agent, an oxidized-metal dissolving agent, a first protective-film forming agent, a second protective-film agent having properties different from the first protective-film forming agent, and water, wherein a combination of the first protective-film forming agent and the second protective-film forming agent controls etching rate, while maintaining chemical mechanical polishing rate, of said metal. According to column 5, lines 54+, the types of amino acids that may be utilized include L-leucine, L-norleucine, L-norvaline, and L-phenylalanine, etc. Column 5, lines 4+ recite the types

of materials that may be utilized as the metal oxidizing agent which includes hydrogen peroxide, nitric acid etc. Column 9, lines 6+, recite the amounts of the components present in the polishing solution. Column 1, lines 11+ recite the types of substrates that may be polished which includes semiconductor circuits.

The instant claims are obvious over the reference. While the reference does not provide an example wherein an alpha amino acid like those recited in instant claims 3-8 is specifically utilized it does teach that amino acids such as those meeting instant claims 3-8 may be utilized and therefore claims 3-8 are obvious absent evidence showing otherwise. As for claims 10-15 while the reference does not recite the same amounts as instantly claimed it does teach amounts that encompass those instantly claimed. However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions taught by the reference overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

> "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages", In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

As for claim 16 while the reference does not specifically recite this method of polishing a surface of base material that is provided with a metal film for wiring, it does teach that it may be utilized for such and thus the method of claim 16 is obvious over the reference absent evidence showing otherwise. As for claims 17-19 while the reference does not specifically recite an example that meets these claims it does teach that the composition may be used to polish semiconductor materials and therefor in the absence of evidence to the contrary these claims (which are conventional method claims for manufacturing semiconductor circuits and the resultant circuit) are obvious over the reference absent evidence showing otherwise.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony J. Green whose telephone number is 571-272-1367. The examiner can normally be reached on Monday-Thursday 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Anthony J. Green
Primary Examiner
Art Unit 1755

ajg
April 12, 2007